

ABSTRACT OF THE DISCLOSURE

An Ethernet passive optical network (EPON) ring for providing protection against fiber failures. The optical network unit (ONU) is coupled to the ring fiber by a three-port passive optical splitting module that has three two-way optical passages. By the three
5 two-way optical passages, the OUN receives/transmits data from/to the two ends of the optical line termination (OLT) to provide protection while the fiber failure. Moreover, it provides better authorization of users and simpler collision detection by the two-way transmission of the three-port passive optical splitting module to prevent hackers from invading and to reduce collisions.